

Date: Monday, 22/10/2007 2:17:15 PM
User: Linda Lacelle

Process Sheet

split 16

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : ARM
Job Number : 35296-13
Estimate Number : 12882
P.O. Number :
This Issue : 22/10/2007 S.O. No. :
Prsht Rev. : NC
First Issue : 11 Type : SMALL / MED FAB
Previous Run : 35030
Written By :
Checked & Approved By :
Comment : Est Rev:A New Issue 07.05.24 EC
est rev B ECN 987 07.10.09 EC verified by: DD

Part Number : D3560042
Drawing Number : D3560 UNDER REVIEW
Project Number : N/A
Drawing Revision : C
Material :
Due Date : 29/10/2007 Qty: 3 Um: 14 Each

Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 M6061T6B0500X05000 6061-T6 Bar .50" x 5.0"



Comment: Qty.: 1.4648 f(s)/Unit Total : 20.5065 f(s)

6061-T6 Bar 0.50" x 5.00"

Batch: M106182

Inf 02/11/30

14

2.0 BAND SAW BAND SAW



Comment: BAND SAW

Cut blanks 16.750" long

Inf 02/11/30

14

3.0 HAAS1 HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1- Mill as per Folio FA694 Rev: M & Dwg D3560 Rev: C

2-C'sink 0.196" hole on manual mill as per dwg D3560

3-Deburr per dwg D3560

RF 07/12/06

4.0 QC2 INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

RF 07/12/06

5.0 QC8 SECOND CHECK



Comment: SECOND CHECK

J.L 07/12/07

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Drawing Name: ARM

Job Number: 35296

Part Number: D3560042

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

D35921

PLATE



Comment: Qty.: 1.0000 Each(s)/Unit Total: 14.0000 Each(s)

PLATE

B 41083



SP 08.09.02 (3X)

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld assembly as per dwg D3560

STEP:

- 1- clean material (buff bracket and bottom of arm with blue pad) SP
- 2- set up bracket and arm on jig SP
- 3- preheat bracket and arm with torch SP
- 4- clean before welding with brush SP
- 5- set up machine to 135 amps SP
- 6- weld across bottom and top ends SP
- 7- reheat with torch () SP
- 8- on one side weld from bottom to top half way SP
- 9- same for other side (half way) SP
- 10- from half way point weld the rest of the first side (ease off pedal near end) SP
- 11- same for remaining side (ease off pedal near end) SP

SP 08.09.02 (3X)

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/09/03

9.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

~~QC9~~ 08/09/03

QC9 08-09-02 (3)

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

HL

08.09.03 (X3)

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Job Number: 35296

Part Number: D3560042

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FA 08/09/03 (3)

12.0

D2808

Spacer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 14.0000 Each(s)

Spacer

B37113

08/09/10

13.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Press bushing in D3560 arm per dwg D3562

08/09/10 (3)

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/09/17 (2)

15.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

08/09/18 (2)

16.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/09/18 (2)






Job Completion



08/09/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D3560-042 PAR #: N/A Fault Category: Prod/PAB. Lrg NCR: Yes No DQA: D Date: 08/09/19
 Resolution: CAR-08-026 Disposition: _____ QA: N/C Closed: D Date: 08/09/19

NCR: 35296		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
8/9/10	3 B-0	During inspection a/c of 02808 Bushing Press fit it was found that a crack in the 03592-1 from welding.	 08/09/15	* See NCR # Qty (FI) Scrap and Destroy. NO Replce	SAD 08/09/17	S 08/02/18	 08/09/15	 08/09/10
	For # 9.0	R.C. too much heat also was missed at ac9 welding inspection Grain runs along the weld.		As per email from David Shephard and Alton Stoker on 08/09/10 @ 1:36 pm <hr/> See CAR 08-026	 2008-09-11			 08/09/10

NOTE: Date & initial all entries

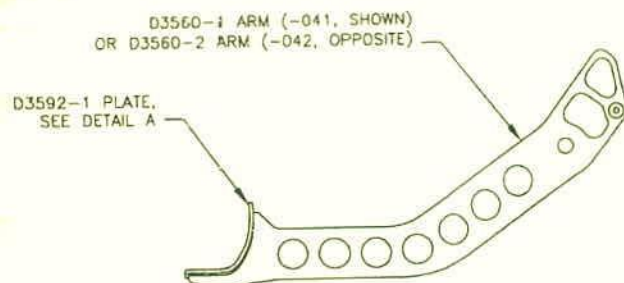
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100

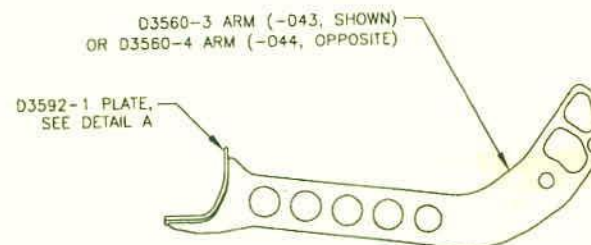
597



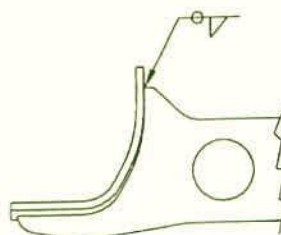
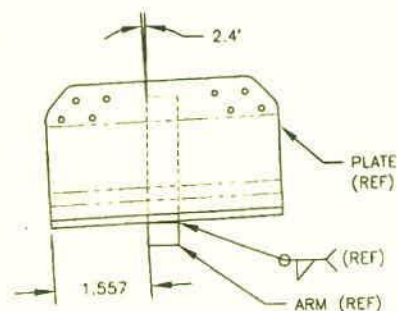
7542



D3560-041 ARM WELDMENT (SHOWN),
D3560-042 ARM WELDMENT (OPPOSITE)



D3560-043 ARM WELDMENT (SHOWN),
D3560-044 ARM WELDMENT (OPPOSITE)



DETAIL A
(SCALE 1:1)

GENERAL NOTES

- 1) WELD PER QSI 004
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4:1
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES

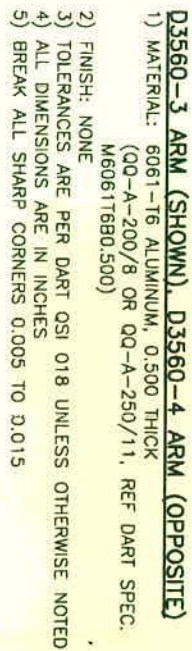
RELEASED
07.06.19
UNDER REVIEW
07.10.22 DL

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C	07.06.19	REMOVE POWDER COAT
B	07.01.15	REDESIGN AS WELDMENT, ADD POCKETS
A	06.09.25	NEW ISSUE
DESIGN	DRAWN BY	DART DART AEROSPACE LTD. HARRISBURG, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D3560
DATE	07.06.19	TITLE ARM WELDMENT
		REV. C SHEET 1 OF 3 SCALE 1:4

W103508



DESIGN	CP	DRAWN BY	CP	DART DART AEROSPACE LTD. MISSISSAUGA, ONTARIO, CANADA
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	
DATE	07.06.19			
DRAWING NO.		D3560		
TITLE		ARM WELDMENT		
		REV. C	SHEET 3 OF 3	
		SCALE	1:2	

From: David Shepherd [mailto:dshepherd@dartaero.com]
Sent: September 10, 2008 1:36 PM
To: 'Alan Stocker'
Cc: 'Chris Provencal'; 'Mike Petsche'; 'Bill Beckett'; 'Susanne Sheldon'
Subject: RE: D3560-044 & -042 Cracking

Alan,

Thanks for the pictures.
I am not comfortable with any sort of repair to these parts.
I think that all 14 parts should be scrapped.
And, at the risk of stating the obvious, we need to revisit the manufacturing process of this joint.
My preference, as it was a couple of years ago, is to eliminate this weld.
However, the geometry in that area is a little tricky.
Suggest we generate an NCR or PAR or whatever.

David

From: Alan Stocker [mailto:astocker@dartaero.com]
Sent: Wednesday, September 10, 2008 10:26 AM
To: 'David Shepherd'
Cc: 'Chris Provencal'; 'Mike Petsche'
Subject: D3560-044 & -042 Cracking

Good morning,

We have 13x D3560-044 and 1x D3560-042 that have cracks all but 1 in the same location.
Attached image D3560-044 Crack 1 shows where 13 of the 14 cracks occurred. D3560-044 Crack 2 shows where the other crack occurred. The cracks shown in D3560-044 Crack 1 vary in depth from roughly 3/32 to 1/2 inch. I discussed this with Chris and Peter the consensus opinion is the parts are scrap. Further discussion with Chris indicates that changing grain direction to 45 degree on the sheet metal part may lower the scrap rate but not eliminate it. This has been done on a previous deviation with a less scrap. D3560-044 Crack 2 appears to just be an anomaly.

Please disposition all 14 parts.

Regards,

Alan Stocker
Mechanical Designer

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